

HELIX HAMMONIS STRØM, 1765 (GASTROPODA): PROPOSED
ADDITION TO THE OFFICIAL LIST OF SPECIFIC NAMES.
Z.N.(S.) 1830

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A recent survey (Waldén, 1966) has given definite evidence that *Nesovitrea hammonis* (Strøm) and *petronella* (L. Pfeiffer) are specifically distinct and not, as some authors have presumed, colour varieties of one species. In addition, the species described as *Helix viridula* Menke has proved to represent a colour variety of *N. hammonis*. These results make it necessary to settle the question of nomenclature, which long has been open to discussion. The following names have to be considered:

1. *Helix hammonis* was described by Strøm 1765 (*Trondheim. Selsk. Skr.* 3 : 435–436, Copenhagen) from Norway. Strøm's description is given below in original, and in English translation¹, respectively:

Helix (Hammonis) *testa umbilicata, planiuscula anfractibus quatuor, apertura subrotundo-lunata*. Saaledes vil jeg kalde en liden Land-Snegel, som her² findes under Stene og raadent Trae paa Marken. Den ligner i Skabning de saa kaldte *Cornua hammonis*,³ er temmelig flad og har paa øverste Side fire Omdreielser, af hvilke den første er næsten ligesaa tyk som alle andre, men paa den underste kun en eneste, og i Midten et Hull eller rund Hule. Aabningen er næsten som paa den foregaaende,⁴ men efter Proportion mindre og lidt mere indskaaren. Farven er som Horn, undtagen foran ved Aabningen, hvor den gjerne er noget guul. Skiaellet er meget skiort og igiennemsigtigt, og Ormen indenfor en sort blaa Snegel med fire Horn. Fig. XVI viser den baade paa øverste og underste Side.

Helix (Hammonis) *testa umbilicata, planiuscula anfractibus quatuor, apertura subrotundo-lunata*. In this way I will distinguish a small land snail, which is found here² under stones and rotten wood on the ground. The shell resembles in shape the so-called *Cornua hammonis*,³ is rather flat and exhibits 4 whorls on the upper side, of which the first is almost as broad as all the others together. On the under side only one whorl is seen, with a hole or rounded cavity in the middle. The aperture is very similar to that of the preceding,⁴ proportionally smaller and a little more incised. It is of horn-colour, except near the apertural margin, where it is often somewhat yellow. The shell is very fragile and translucent, and the animal within it a black-blue snail with four horns. Fig. XVI shows its upper as well as underside.

The size is not given exactly, but can be estimated from Strøm's drawing (fig. XVI) if this is compared with the drawings of the further 17 species regarded

¹Essentially after Taylor (1914, p. 88).

²No exact locality is given, but S. Møre in W. Norway has to be regarded as *terra typica* to some degree. Strøm worked here as a vicar and naturalist 1750–1778, during which time his book was written and published.

³Ammonites.

⁴*Helix domestica* = *Vitrina pellucida* (Müller).

in the book. These are reproduced in a scale which varies from natural size for the larger species to $\times 1.4$ magnification for the smallest ones. One of the latter is *Helix hammonis*, and in the picture it is 5.5 mm. in diameter. According to the survey of the present author the maximum size of *N. hammonis* auctt. is 4.95 mm. Against this background it can be assumed that Strøm's drawing indicates a size, which must be reasonably consistent with *N. hammonis* auctt.

Nothing in the description is inconsistent with Strøm having dealt with the species called *N. hammonis* by recent authors. On the contrary, the reference to the aperture callus ("where it is often somewhat yellow") very definitely links the description to *N. hammonis* auctt. The description does not fit any other terrestrial gastropod species living in Norway. This fact, as well as certain arguments raised against the identity of *Helix hammonis*, will be considered later.

2. *Helix viridula* was described by Menke 1830 (*Synopsis method. Moll. Gen. omn. & spec.* : 127, Pyrmont). The description¹ is not unambiguous and the name was interpreted as a synonym of *Helix pura* Alder by Kennard & Woodward (1926, p. 180). It has also been used for the species known as *N. petronella* (L. Pfeiffer). However, original material collected by Menke in 1827 exists in the Senckenberg Museum (SM 166600/1-2). From this material a lectotype has been selected by Dr. H. Ant (Hamm, Westfalen, Germany) and Dr. A. Zilch (Senckenberg Museum). This was examined by Waldén in his recent survey (1966, p. 172) and proved to represent a light greenish form of *N. hammonis* auctt.

Note: On the original label another locality: Pyrmont, Germany, is given than in Menke's description. There are, however, clear indications that the material must be considered as syntypic, and consequently would allow the designation of a lectotype.

(a) It is the only existing material, collected (July 1827) before the description was published.

(b) In the publication only two localities are mentioned, both situated close to Pyrmont, where Menke was appointed as physician. It may be assumed that he used the indication Pyrmont for material from various localities in the neighbourhood.

(c) The size of the lectotype (alt. 1.95 mm. diam. 3.65), as well of a second specimen, is fairly consistent with that given by Menke in the description.

Actually, similar inappropriateness is the rule rather than the exception when early type material is considered. In the writer's opinion no positive arguments can be raised against the view that the pertinent sample is syntypic. Reasonably the designation of the lectotype must be accepted, and the identity of *Helix viridula* Menke can be regarded as settled.

¹*Helix viridula*, m. -H. testa orbiculato-convexiuscula, umbilicata, tenui, glabra, pallide, viridicante, pellucida, nitida; apertura subrotunda; labro simplici.

Altit: 1 lin; lat. 1 $\frac{1}{2}$ lin.

Hab. sub lapidibus calcareis, locis humentibus, in Hassia prope Eschenberg (*ipse*), in principatu Lippe, prope Bösingfelde (W. Dunker).

Nequit esse albina *Helix nitida*, Müll.; nostra enim minor est et aperturam habet aliquid rotundiorum. *Helicem vitrinam*, Fér. huc referri posse, ex solo loco huic speciei ab illustri auctore in systemate tributo suspicor.

It has not been possible to prove definitively the date of publication of Menke's paper. Generally (cf. Kennard & Woodward, *l.c.*) April 1830 has been accepted as the time of publication. This time is given in the under-signing of the preface of his book by Menke, but from this it does not follow automatically that it was printed that month. However, efforts to obtain more exact information have been without results.

3. *Helix radiatula* was described by Alder 1830 (*Trans. Nat. Hist. Soc. North. 1* : 38, Newcastle). The description¹ is quite unequivocal. On the other hand, the date of publication in this case also is partly obscure. Sometimes 1831 is given, because the actual volume of the Transactions appeared that year, sometimes March 16th 1830, because the manuscript was read for the Society on that date. According to Mr. A. M. Tynan, Curator of the Hancock Museum (Newcastle upon Tyne, England) the actual period can be delimited to the early autumn, 1830. Mr. Tynan has kindly examined the Minute Books of the Society for the crucial period. The complete volume appeared in 1831, but in fact it was made up of at least two separately printed parts. At the committee meeting on May 18th, 1830, it was resolved that the papers which should be read at the coming meeting in June, together with the papers already accepted, should be printed in part I of the volume. This includes Alder's paper. At a meeting on August 2nd, 1830, the price of Part I of the volume was decided, which implies that the printing costs now could be estimated. At the same meeting it was resolved that the second part should be printed. According to Mr Tynan this (and some further matters) points to the fact that the first part must have been, if not in print, in any case on the point of appearing on August 2nd, 1830. The present writer agrees with this conclusion.

4. *Helix petronella* was first mentioned as *nomen nudum* by Charpentier (1852), but a nomenclatorically valid description² was published by L. Pfeiffer 1853 (*Monographia Heliceorum viventium*, 3 : 95, Leipzig). The name is placed on the Official List of Specific Names in Zoology (Opinion 336, nr. 390, 1955). The taxonomic content of the name was definitely settled by Forcart (1960 : 173), who identified the syntypes of Pfeiffer (now in the Cuming Collection of the British Museum (Natural History)) and selected the lectotype.

¹50. *H. radiatula*, mihi

Shell depressed, horn-coloured, rather shining, transparent, regularly striated; with 3½ or 4 whorls, flattened at their junction with the inner ones, over which the striae appear continuous and strongly marked, giving the shell a radiated appearance under a magnifier, the outer whorl rather large in proportion to the rest; underside smooth without any whiteness; umbilicus moderately large; diameter 1½ tenth of an inch.

Animal black.

In wet moss, not uncommon.

This species may be distinguished from the young of the foregoing, to which it bears some resemblance, by the regular and more distinct striae, and particularly by the flatness of the whorls at their junctions. The same characters also serve to divide it from the young of the two following species.

²402. *H. Petronella* Charpentier.

T. umbilicata, depressa, tenuis, superne distincte et confertim plicatula, pellucida, virenti-hyalina; spira convexiuscula; sutura impressa, submarginata; anfr. 4 planiusculi, ultimus depresso rotundatus, non descendens, basi convexiusculus; umbilicus angustus, pervius; apertura parum obliqua, lunatorotundata; perist. simplex, tenue, rectum, margine columellari superne vix dilatato.—Diam. maj. 5, min. 4½, alt. 2½ mill. (Mus. Cuming.)

Helix Petronella Charpent. mss.

Habitat in summis Alpibus Helvetiae rarissima.

5. Some further early names, which may reasonably refer to *N. hammonis* auctt. are disregarded here as *nomina nuda* (cf. Kennard & Woodward, l.c. : 180–181).

Remarks on the name Helix hammonis

The oldest name, *Helix hammonis* Ström, was considered as a synonym of other names by some early authors (to *Helix nitida* Müller by Müller, 1774 : 32, Fabricius,¹ 1780 : 389, and Gmelin, 1791 : 3633). However, it seems never to have been used positively, as a valid name for any other species than *N. hammonis* auctt. This has to be kept in mind, because it implies that the objection sometimes raised that the original meaning of a name is obscure, because it has been used in a wrong way by early authors, is not applicable in the case of *Helix hammonis*. What it really shows is that the description of *Helix nitida* is ambiguous.

Martens (1857 : 81) evidently dealt with *Nesovitrea hammonis*, though under the incorrect name *Helix pura*, considering *Helix hammonis* as a synonym of the latter.

The first author, after Ström, who used the name as a prior synonym and in the present meaning was Mörch (1864 : 14), though he did not discuss the taxonomic and nomenclatorial problems involved.

Westerlund (1871 : 49–53) was the first author who critically discussed *Helix hammonis* and other pertinent names, pointed out the specific difference between *N. hammonis* and *petronella*, considered the distinctive features in Ström's description, and demonstrated that *hammonis* had priority among 5 alternative names.

The name *hammonis* has long dominated in Scandinavian literature, and especially in later years it has been widely recognized in the international literature (e.g. in Adam, 1960, Jaekel, 1962, Licharev & Rammelmeyer, 1952, and Pilsbry, 1946).

In British literature Alder's name *radiatula* has always prevailed. Taylor (1914 : 87–88) refused to regard *hammonis* as a senior synonym of *radiatula*. His arguments were principally that the name had been used by early authors for various other species. From this he concluded that the identity of Ström's original species was doubtful.

Kennard & Woodward (1920 : 84) support Taylor's criticism and, in addition, put forward the possibility that *Helix hammonis* might have represented a juvenile of a larger species.

However, the fact that a description has been misinterpreted by later authors cannot in itself disqualify a name. The decisive condition is if the description is unambiguous in relation to relevant matters. Relevant matters in the present connection are the other land gastropod species living in Norway, as Ström's description may have been based on another species, or on a mixture of two or more species living in Norway.

Alder's description of *Helix radiatula* is generally accepted as quite unambiguous. If this is compared with Ström's description it is apparent that they practically agree with regard to a number of characters, viz. the shape and

¹In fact the identity of Fabricius' species is doubtful. Later authors record neither *Nesovitrea hammonis* (Ström), nor *Zonitoides nitidus* (Müller) from Greenland.

colour of the shell, the colour of the animal, the number of whorls, the breadth relation between the last and the inner whorls, and the shape of the umbilicus. All these characteristics clearly point *N. hammonis* auct. Only by Alder the radial sculpture and the flattened suture are mentioned, in addition to which an exact size of the shell is given. On the other hand only Strøm describes the form of the aperture and indicates the callus (which was apparently lacking in Alder's specimens). Concerning the size Strøm writes only "liden" = small, but as considered above there are strong indications that this must refer to a shell of the size of *N. hammonis* auct.

It remains to prove if Strøm's description can cover any other snail living in Norway. Within liberal limits the following species have to be considered:

- (i) *Aegopinella pura* (Alder) is of the same size, but is excluded with regard to the colour of the animal (whitish) and the lack of a callus.
- (ii) *Zonitoides nitidus* (Müller) is excluded owing to the markedly darker shell, lack of callus, higher number of whorls (4·5), and because the last whorl is less pronounced in relation to the inner ones.
- (iii) *Discus ruderratus* (Hartmann) is excluded, e.g. on account of the conspicuously ribbed and convex whorls, lack of callus and its opaque shell.
- (iv) *Discus rotundatus* (Müller) is excluded owing to its numerous (6), markedly narrow whorls, opaque shell, etc.
- (v) *Eucomulus fulvus* (Müller) has been suggested by Binney & Bland (1869, p. 48, under the name *Hyalinia fabricii* Beck). This is definitely absurd, as this species lacks an umbilicus and its general shape is quite different from that indicated by Strøm.
- (vi) Concerning Kennard's & Woodward's suggestion that *hammonis* represented a juvenile stage of a larger species, the only species which can be in question when shape and colour are considered are *Aegopinella nitidula* (Draparnaud) and *Oxychilus alliarius* (Miller). The alternative of a juvenile of a larger species has to be seen in relation to the opinion expressed by Kennard & Woodward (*l.c.*), which suggests that all the land gastropods described by Strøm were based on inadequate material. In reality this suggestion is quite unsubstantiated and gives the impression that these authors have not studied Strøm's text in the original. From this it is apparent that Strøm was a trained observer, well capable of distinguishing the adult shells on which his descriptions were based, from the juveniles of various species. If the above mentioned species had formed any part of Strøm's material he would surely have considered the adult forms too. With these the description is definitely inconsistent. If the limits are made still more liberal, and it is admitted that he could have obtained the juveniles but not the adults, the description is likewise inapplicable. The larger species do not reach the actual number of whorls (4) at the size indicated by text and figure. Furthermore, they do not develop an apertural callus or attain a yellow colour at the margin.
- (vii) Since these alternatives of small and large species have been excluded it

would be superfluous to extend the discussion to further species, which differ even more from the description of *Helix hammonis*.

From the above it can be concluded that no arguments, which definitely contradict the hypothesis that Strøm's species is identical with *N. hammonis* auct., can be raised, whereas a careful reading of the original text makes it evident that any alternative species is excluded. Considering that Strøm's description positively agrees with *N. hammonis* auct., it must be assigned as high a degree of relevance as is possible, when the original type material is lacking.

Conclusion

Owing to earlier disagreement about the taxonomy there has been considerable confusion in the nomenclature. The name *hammonis* (and its synonym *radiatula*) has been used for both the species involved. The same is the case with *petronella*; in addition it has sometimes been limited to the uncoloured variety of *hammonis*. The name *viridula* has been used both for this variety and for *petronella*, in addition it has been regarded as a synonym for *Aegopinella pura* (Alder). Earlier the nomenclature was fairly stable for a relatively long time, but especially in later years the confusion has increased to an unacceptable level. It is noteworthy that this confusion includes a name *Helix petronella* L. Pfeiffer, which has been placed on the Official List of Specific Names for a long time, but apparently without the requisite taxonomic fixing.

Recent research has, however, clarified the taxonomic relations and the obscure points in nomenclature. The evidence attained allows a definitive settling of the nomenclature, and with regard to the prevailing confusion this is urgently desirable. Experience shows, however, that if the intended stabilization should be guaranteed, the validated names must be given an objective relation, by settling of type specimens.

In the writer's opinion it seems evident that the name *Helix hammonis* Strøm, 1765, is qualified as senior, valid synonym for the one of the two species concerned here. The objections which have been made against it can throughout be dismissed. Its placing on the Official List of Specific Names in Zoology appears to be very well justified. This ought to be combined with the settling of a neotype, selected from material from the *terra typica*, Norway.

Present evidence indicates that *Helix viridula* Menke, 1830, is a second synonym for the same species. Its identity is proved by syntypic material. Though it has to be ranked only as a nomenclatorial species, the special conditions make it necessary to define its identity by settling of a lectotype. Finally *Helix radiatula* Alder seemingly is the third synonym. The name is unequivocal, and at present there is no reason to designate a type for it.

Though the evidence for validation of *Helix hammonis* Strøm seems conclusive in the writer's opinion, a clearly undesirable consequence must be pointed out, if the Commission would hesitate to accept it. Most probably this would result in *Helix viridula* Menke attaining priority. This name is clearly inappropriate, as it refers to a subordinate variety of a prevailing horn-brown species, and, furthermore, it has never been used for the nominate form of this species. On the contrary it has long been controversial and used for other species. Its inappropriateness does not by itself disqualify the name (Art. 18a),

but its acceptance would be clearly against the meaning of the Preamble of the *Intern. Code Zool. Nom.*, according to which the strict application of the Code may be suspended when stability is threatened in an individual case. Difficulties on this level are avoided if *Helix hammonis* is accepted, a name whose meaning is clearly recognizable and has a long, well established use in literature.

Designation of type specimens

To avoid future confusion it is desirable to settle the attained results by the designation of type specimens. The proposed type specimens, which have been examined by the present author, and their taxonomic identity proved in connection with the recent taxonomic survey (Waldén, 1966), are defined in the following way:

- (a) *Neotype* for *Helix hammonis* Ström: A specimen in the Zoological Museum, University of Oslo, Norway. It is light yellowish-brown, has a major diameter of 3.8 mm. and 3.5 whorls. It has two labels, with the text:
- (1) Zool. Mus., Oslo: D 27826. *Hyalinia radiatula*, Molde. Coll. Fridthjof Økland 6-7 juli 1915.
- (2) *Helix hammonis* Ström. *Neotypus*. Norvegia, Moere, Molde. Legit. F. Økland 6-7 juli 1915. Design. H. W. Waldén 1968.
- (b) *Lectotype* for *Helix viridula* Menke: A specimen in the Senckenberg-Museum, Frankfurt a.M., Germany. The specimen is light greenish-white, rather hyaline, of 3.65 mm. major diameter and 3.4 whorls. The specimen is registered under the number SMF 166600/1 and the original label runs:

Helix viridula m. Pymont, in monte molari. iul. 1827.

The lectotype was selected by Dr. H. Ant and Dr. A. Zilch, as indicated by a particular label. It was published by Waldén 1966 (p. 172).

- (c) *Lectotype* for *Helix petronella* L. Pfeiffer: A specimen selected from a series in the Cuming Collection, British Museum (Natural History), London, by Dr. L. Forcart. The specimen is hyaline, nearly colourless, has a major diameter of 4.5 mm. and 3.8 whorls. The label of the whole series runs:

B.M.(N.H.) reg. no. 1966231 (Charpentier nom. nud.) Orig. Ref. L. Pfeiffer *Mon. Helic. viv.* 3, p. 95. Figured Reeve *Conch. Icon.* 7, *Helix* p. 201, fig. 1416, as *H. petronella*. "Summae Alpes Helvetiae". "Rariss(ima)".

The specimen designated as lectotype by Dr. L. Forcart 1960 (p. 219) is indicated by a particular label. Additional data were published by Waldén 1966 (p. 173).

Proposal:

The International Commission on Zoological Nomenclature is hereby requested:

- to place the specific name *hammonis* Ström, 1765, as published in the binomen *Helix hammonis*, and as interpreted by the neotype designated by Waldén herein, on the Official List of Specific Names in Zoology.

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Comment

The undersigned have taken part of the evidence concerning the palearctic species of the genus *Nesovitrea* published by H. W. Waldén. In our opinion Waldén has conclusively demonstrated:

I. That *Nesovitrea hammonis* (Ström) and *petronella* (L. Pfeiffer) are well distinguished species.

II. The validity of the name *Helix hammonis* Ström, 1765.

The request that the name *Helix hammonis* should be placed on the Official List of Specific Names in Zoology is well-grounded, and we recommend the Commission to make its decision in favour of this name.

Previous extremely controversial opinions about nomenclature and taxonomy of the group makes a definite fixing of the names *Helix hammonis* and *petronella*, and of the nomenclatorial species *Helix viridula*, to type specimens desirable. Therefore we find it advisable that the neo- and lectotypes are settled in the present connection.

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